APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,435	03/30/2001	Yibin Yang	US 010158	8457

				EXAMINER
24737	7590	05/24/2004		REKSTAD, ERICK J

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ART UNIT	PAPER NUMBER
2613	7

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/822,435	YANG, YIBIN
	Examiner	**Art Unit**
	Erick Rekstad	2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 March 2001_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-13_ is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☒ Claim(s) _6-8_ is/are allowed.
6)☐ Claim(s) _1-5 and 9-13_ is/are rejected.
7)☒ Claim(s) _8_ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☐ All   b)☐ Some * c)☐ None of:
       1.☐ Certified copies of the priority documents have been received.
       2.☐ Certified copies of the priority documents have been received in Application No. _____.
       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 8 is objected to because of the following informalities: The claim states

"second compression" which should be "second expression". Appropriate correction is

required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over 'Edge

enhancement of remote sensing image data in the DCT domain' by Biao Chen et al.

[claim 1]

Chen teaches the method of performing linear contrast stretching in the DCT

Domain for MPEG video ("Introduction" and "Contrast manipulation"). It is well known in

the art to store a method in memory as computer readable instructions for use by a

microprocessor (Official Notice). It would have been obvious to one of ordinary skill in

the art at the time of the invention to store the method of Chen as computer readable

instructions for use by a microprocessor.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen

in view of US Patent 6,236,751 to Farrell.

[claim 2]

As shown in equation 3 on page 914, Chen teaches the method of linear contrast enhancement stretching. Chen does not teach that the MIN is a shifting parameter or that 255/(MAX-MIN) is a stretching factor. Farrell teaches the classic method of dynamic range modification (Col 3 Lines 22-55). Farrell teaches that the MIN is a shifting parameter (Col 3 Lines 50-51). Farrell further teaches that the 255/(MAX-MIN) is a stretching factor (Col 3 Lines 52-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the equation of Chen for contrast stretching as it is equivalent to the classic dynamic range modification equation as shown by Farrell.

[claims 3 and 4]

Chen teaches the method of performing the linear contrast stretching on only the DC components (Page 915 First Paragraph). It would have been obvious to one of ordinary skill in the art at the time of the invention that the DCT[β] has only one non-zero value that is equal to 8xβ as it is a common characteristic of the DC component of a Discrete Cosine Transform (Official Notice).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of US Patent 6,298,166 to Ratnakar et al.

[claim 5]

Chen teaches the method of contrast stretching in the DCT domain. Chen does not teach storing the method in non-volatile random access memory electrically coupled to a microprocessor. Ratnaker teaches the use of a non-volatile random access memory electrically coupled to a microprocessor in order to store the compressed-

domain based processing techniques (Col 14 Lines 1-25, Fig. 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Chen with the storage method of Ratnaker in order to store the method for use by a microprocessor.

Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen and Ratnakar as applied to claim 5 above, and further in view of US Patent 5,774,206 to Wasserman et al.

[claims 9 and 10]

Chen and Ratnakar teach the method and system of contrast stretching in the DCT Domain as shown above for claims 5 and 1 (Ratnaker Fig. 3). Chen and Ratnakar do not specifically teach the contrast stretching performed in an MPEG-2 decoder. Wasserman teaches an MPEG-2 decoder (Col 2 Lines 15-34, Fig. 2). Wasserman further teaches the MPEG algorithm incorporates the basic processes of the JPEG format (Col 5 Lines 19-26). Wasserman further teaches the decoder could include other hardware components for performing digital signal processing (Col 8 Lines 27-34). It would have been obvious to one of ordinary skill in the art to combine the MPEG system of Wasserman with the contrast stretching system of Chen and Ratnakar as the MPEG decoder contains the basic processes of a JPEG decoder. It would have been obvious to one of ordinary skill in the art at the time of the invention to insert the system of Chen and Ratnaker into the MPEG system of Wasserman before the IDCT in order to perform digital signal processing.

[claims 11 and 12]

As shown in Figure 2, Wasserman teaches the use of a microprocessor (102) which controls the MPEG decompression hardware (Col 8 Lines 20-34). Wasserman further teaches the control of the decompression hardware through the use of software instructions (Col 9 Lines 60-63).

[claim 13]

Wasserman teaches the decoding using the timing mechanism within the MPEG stream to synchronize the audio and video (Col 4 Lines 22-67). Wasserman further teaches the enabling and disabling of the decoding hardware using the control registers (Col 9 Lines 60-67 and Col 10 Lines 1-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the timing mechanism with the control registers in order to synchronize the audio and video.

Allowable Subject Matter

Claims 6-8 allowed.

The following is a statement of reasons for the indication of allowable subject matter: The claims state a method for contrast stretching in a DCT domain which performs separate methods for intrablocks and interblocks. Chen teaches a method of performing only one method of contrast stretching without detecting if the block is an intrablock or an interblock.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 5,706,216 to Reisch.

US Patent 6,640,017 to Tsai et al.

US Patent 5,832,135 to Merhav et al.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Erick Rekstad whose telephone number is 703-305-

5543. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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Business Center (EBC) at 866-217-9197 (toll-free).

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